



Nintendo GameCube Lens Recalibration

Recalibration of the optical drive lens to fix 98% of DRE (Disc Read Error) messages.

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INTRODUCTION

This guide will teach you the following:

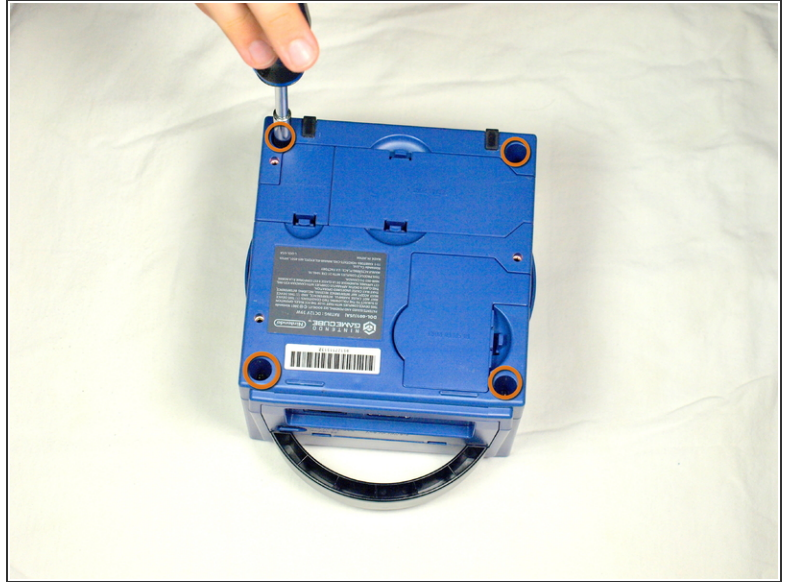
- To disassemble your Nintendo Gamecube exterior case
 - To access the optical drive motherboard
 - To adjust the potentiometer to fix 98% of those pesky DRE (Disc Read Error) messages
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TOOLS:

- [Gamebit 4.5mm](#) (1)
 - [Phillips #1 Screwdriver](#) (1)
 - [Phillips #2 Screwdriver](#) (1)
 - [Very small flat precision screwdriver](#) (1)
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Step 1 — Disassembling the exterior case



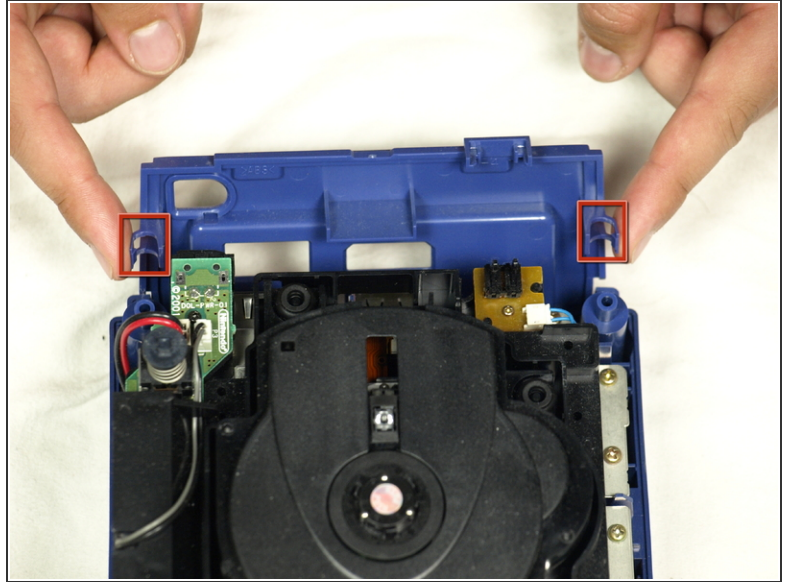
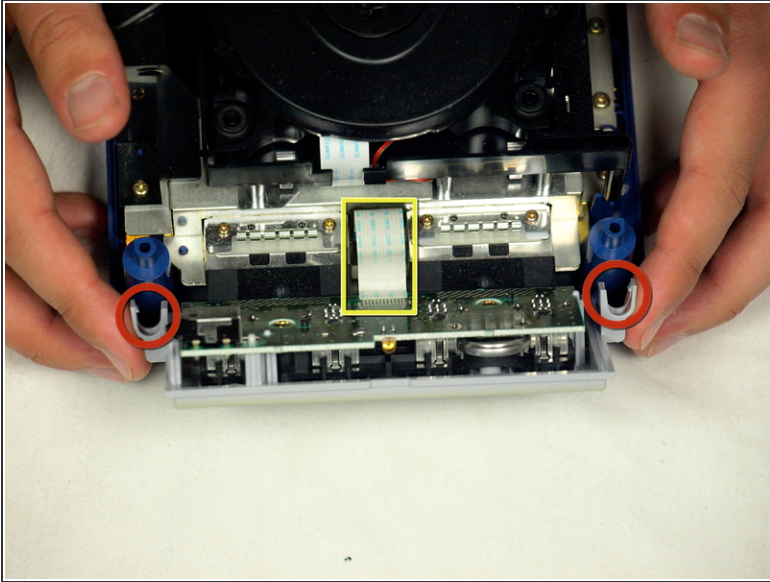
- Flip the GameCube upside down.
 - Use a 4.5 mm gambit screwdriver to unscrew the four screws located on each corner (as shown in the second picture).
- ☑ Remember to put all screws aside and out of the way from risk of being lost
- With the four screws removed, flip the Gamecube back over to the original position.
- ⓘ Make sure to hold the bottom wall so it does not come off when flipping back over.

Step 2



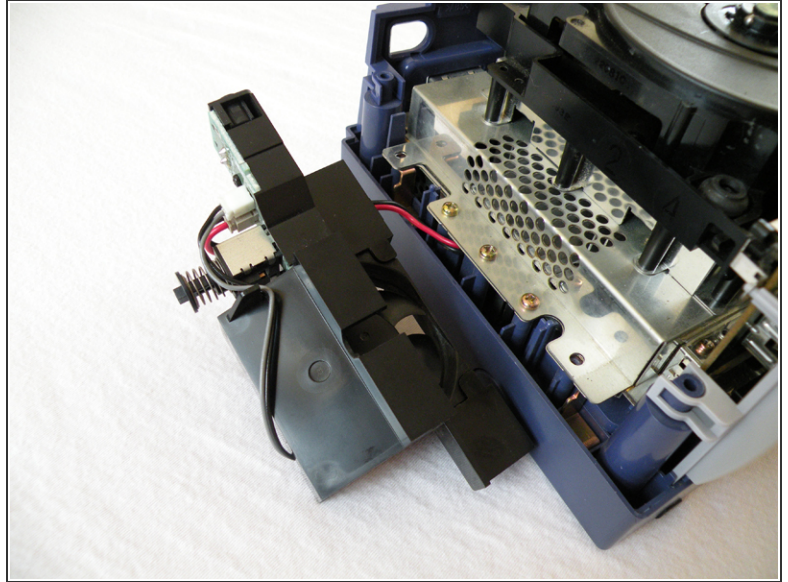
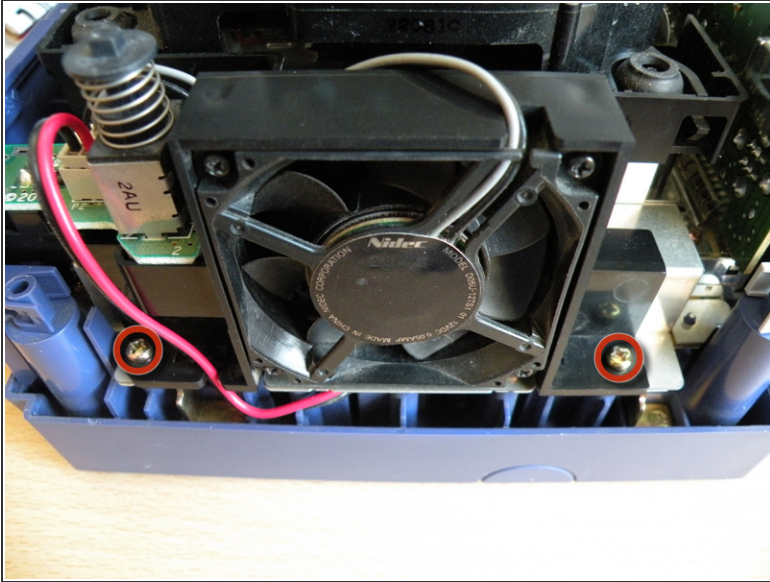
- Using both hands, grasp the top of the Gamecube and carefully slide off the top wall exposing the inside of the unit.
- Set aside the top wall.

Step 3 — Removing the front and back panels



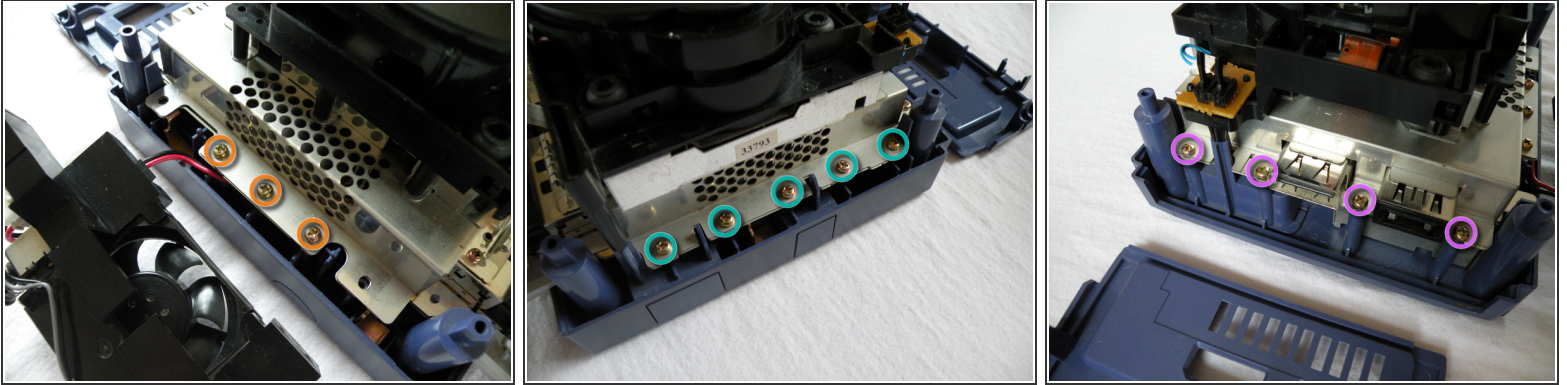
- On opposite sides of the front panel you will see two (2) clips that attach the front panel to the front of the console. Remove the front panel by pressing on the two clips as shown in picture 1
- The ribbon attaching the Gamecube to the front panel does not need to be removed, let the front panel rest at the front of the console.
- Remove the rear panel using the same technique used for the front panel, as shown in picture two.

Step 4 — Removing the cooling fan



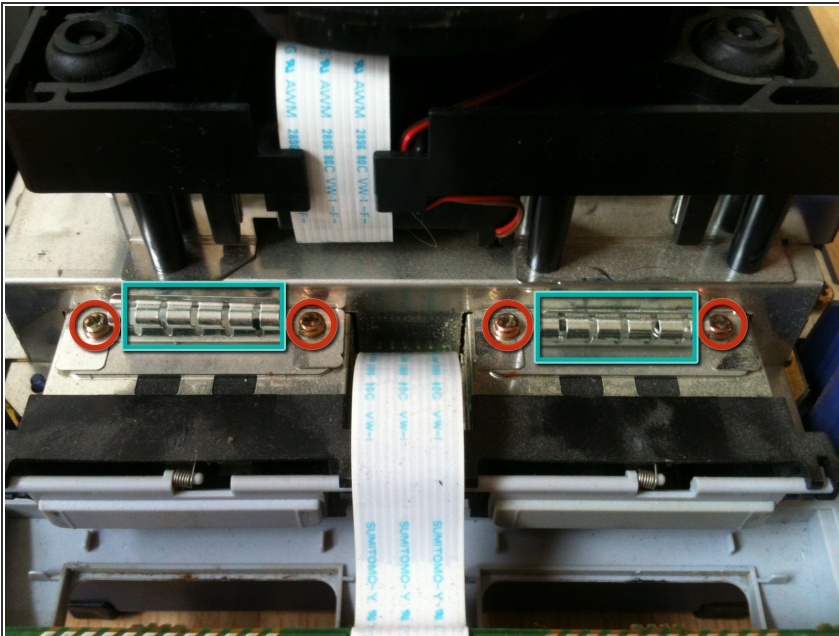
- Unscrew the two screws using a #2 phillips screwdriver.
 - ⓘ It is not necessary to detach the cooling fan wire from the power button switch board.
- Slightly lift the cooling fan; slide it outwards and away from the rest of the Gamecube and lay it off to the side of the console.

Step 5 — Removing the optical drive main screws



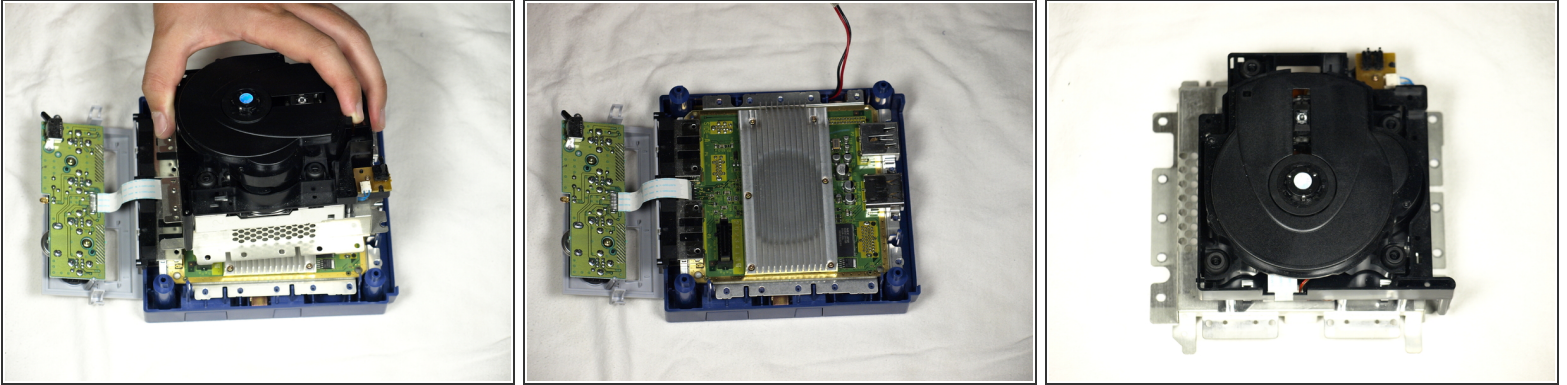
- Locate and remove the twelve (12) Phillips #2 screws around the outside of the metal chassis located underneath the optical drive.
 - Three (3) of the twelve (12) screws are located underneath the cooling fan housing
 - Five (5) of the twelve (12) screws are located to the right of the optical drive unit. Refer to picture 2.
 - Four (4) of the twelve (12) screws are located to the rear of the unit, shown in picture 3.

Step 6 — Memory card ground springs



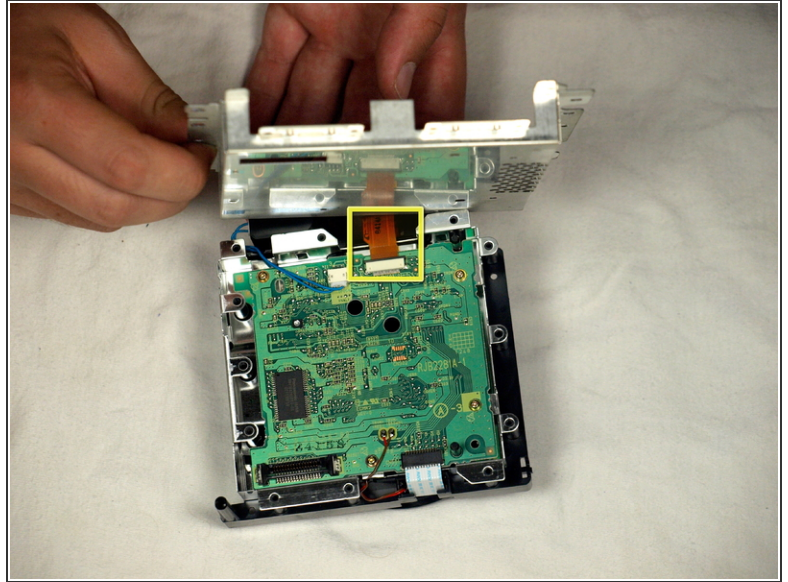
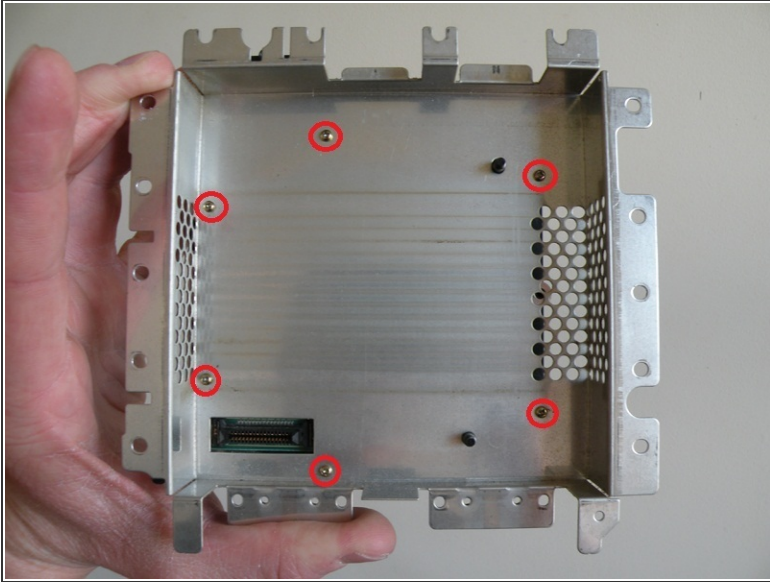
- Remove the four Phillips #1 screws securing the memory card ground springs located at the front of the console
- Remove the ground springs and set them aside

Step 7 — Removing the optical drive



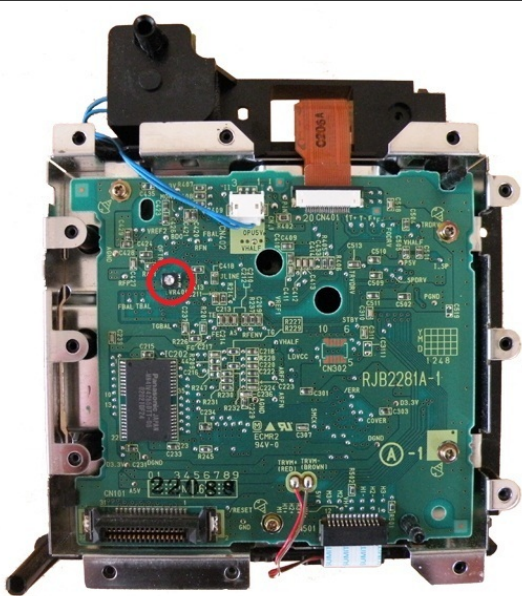
- Carefully remove the optical drive unit.
 - ❗ The optical drive unit is connected to the main motherboard via a slot, located at the front right of the unit, so some force will be needed when removing the unit.
- Carefully place the rest of the Gamecube unit aside and focus on the optical drive. Refer to picture 3.

Step 8 — Optical drive metallic chassis



- Underneath the now detached optical drive unit are six (6) Phillips #1 screws holding the metal chassis to the optical drive unit.
- Remove all six screws and place the metal chassis to the side.
- ⓘ For this next step its recommended you place an old Gamecube disc on the optical drive unit to protect the lens from being scratched.
- ⚠ Take care not to damage the brown ribbon underneath as you do this. Picture 2 for reference.

Step 9 — The potentiometer



- i** The potentiometer is located as shown in the picture. It's a very small cross-wing screw mounted on top of a little black box.
- i** Now we need to adjust the potentiometer to make the optical lens laser stronger.
- Using a very small flat head precision screwdriver turn the potentiometer no more than 3 degrees counter-clockwise.
- !** Turning the potentiometer too much can result in the laser becoming too strong and actually burn the discs!
- i** Turning the potentiometer clockwise would just result in a weaker laser and create even more DRE messages.

Step 10 — Testing and further adjustments



- To test the lens calibration reassemble the console up to the ground springs near the memory card slots.
 - ⚠ The memory card ground springs **MUST** be put back on prior to restarting your console.
- If any further adjustments are necessary just turn the potentiometer no more than 1 or 2 degrees more per readjustment. Eventually you'll start to see less DRE messages.
 - ⓘ Once there no more DRE messages, turn the potentiometer a further 1 degrees to "future-proof" your lens from DRE messages in the future.
 - ⓘ As stated in the title of this guide. This procedure may not fix your DRE problems if the fault lies elsewhere in the system. But this will cover about 98% of DRE messages.

To reassemble your device, follow these instructions in reverse order.

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